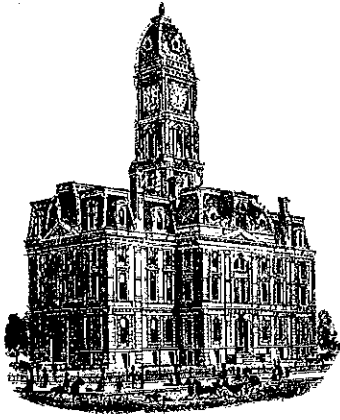


KW



# SURVEYOR'S OFFICE Hamilton County

*Kenton C. Ward, CFM*  
*Surveyor of Hamilton County*  
*Phone (317) 776-8495*  
*Fax (317) 776-9628*

*Suite 188*  
*One Hamilton County Square*  
*Noblesville, Indiana 46060-2230*

October 5, 2018

To: Hamilton County Drainage Board

Re: Boone Creek Drain, Copper Run Arm

Attached is a petition filed by Pulte Homes of Indiana, LLC, along with a non-enforcement request, plans, calculations, quantity summary and assessment roll for the Copper Run (AKA Copperleaf) Arm, Boone Creek Drain to be located in Clay Township. I have reviewed the submittals and petition and have found each to be in proper form.

I have made a personal inspection of the land described in the petition. Upon doing so, I believe that the drain is practicable, will improve the public health, benefit a public highway, and be of public utility and that the costs, damages and expenses of the proposed drain will probably be less than the benefits accruing to the owners of land likely to be benefited. The drain will consist of the following:

12" RCP	655 ft.	24" RCP	569 ft.
15" RCP	715 ft.	30" RCP	222 ft.
15" HDPE	8 ft.	36" RCP	483 ft.
18" RCP	151 ft.	42" RCP	165 ft.
21" RCP	576 ft.	6" SSD	3,120 ft.
		Open Ditch	15 ft.

The total length of the drain will be 6,679 feet.

The retention ponds (Lake #1 and Lake #2) located in Common Area A are not to be considered part of the regulated drain. Pond maintenance assumed by the Drainage Board shall only include the inlets and outlets as part of the regulated drain. The maintenance of the retention ponds (lakes) such as sediment removal and erosion control along the banks, mowing and aquatic vegetation maintenance and control will be the responsibility of the Homeowners Association. The Board will retain jurisdiction for ensuring the storage volume for which the pond was designed will be retained. Thereby, allowing no fill or easement encroachments.

The subsurface drains (SSD) to be part of the regulated drain are those main lines located in rear yards and common areas. The SSD's in the street will not be part of the regulated drain due to street trees and the Hamilton County Drainage Board discussion on July 9, 2018, (see Hamilton County Drainage Board Minute Book 18, Pages 204 to 206). The street SSD will be the maintenance responsibility of the City of Carmel. Only the main SSD lines which are located within the easement are to be maintained as regulated drain. Laterals for individual lots will not be considered part of the regulated drain. The portion of the SSD which will be regulated are as follows:

Rear Yard SSDs:

Rear yard lots 1 and 2 from Str. 651 running north to riser  
Rear yard lots 3 and 4 from Str. 608 running south east to riser  
Rear yard lots 5 and 6 from Str. 644 running west to riser  
Rear yard lots 6 and 7 from Str. 644 running east to riser  
Rear yard lots 8 and 9 from Str. 638 running south to riser  
Rear yard lots 10 and 11 from Str. 638 running north to riser  
Rear yard lot 11 from Str. 613 running south to riser  
Rear yard lots 17 and 18 from Str. 644 running south to riser  
Rear yard lots 19 to 20 from Str. 647 running south to riser  
Common Area C from Str. 647 running south to riser  
Rear yard lots 21 and 22 from Str. 647 running north to riser  
Common Area C from Str. 647 running north to riser  
Rear yard lots 23 to 25 from Str. 634 running south to riser  
Rear yard lot 26 from Str. 634 running north to riser  
Rear yard lots 26 and 27 from Str. 616 running south to riser  
Rear yard lot 28 from Str. 616 running north to riser  
Common Area C from Str. 616 running south to riser  
Common Area C from Str. 616 running south to riser  
Common Area A from Str. 621 to Str. 622  
Common Area A from Str. 622 running north west to riser

I have reviewed the plans and believe the drain will benefit each lot equally. Therefore, I recommend each lot be assessed equally. I also believe that no damages will result to landowners by the construction of this drain. I recommend a maintenance assessment of \$65.00 per platted lot, \$10.00 per acre for common areas, with a \$65.00 minimum, and \$10.00 per acre for roadways. With this assessment the total annual assessment for this drain will be \$2,259.00. I further recommend that the maintenance assessment collections be set to eight (8) times the annual collections as allowed in IC 36-9-27-43.

In accordance with IC 36-7-4-709, the petitioner did not submit surety for the proposed drain prior to construction commencing. If the petitioner/developer wants to submit final secondary plat for recording prior to the final inspection and approved as-built drawings, a bond will be required at that time.

I believe this proposed drain meets the requirements for Urban Drain Classification as set out in IC 36-9-27-67 to 69. Therefore, this drain shall be designated as an Urban Drain.


The off-site easement for this project will cross parcel number 019-10350-01 in Boone County, owned by Austin Oaks Homeowner's Association. An easement agreement is recorded as instrument number 2018009257 in the office of the Boone County Recorder.

The portion of drain within Boone County will consist of approximately 484 feet of 24" RCP and 15 feet of open ditch. The 24" RCP will begin approximately 28 feet northeast of Str. 604 and terminate at Str. 601. The open ditch shall be that section between Str. 601 and the south property line of Austin Oaks Section 10 Meadows Block "B".

Because the area of affected land in Hamilton County exceeds 80% of the total area of land affected by the proposed drain, also, because more than 90% of the length of the drain lies within Hamilton County, I have sent the Boone County Drainage Board a request for waiver of a Joint Drainage Board for this drain as per IC 36-9-27-14 (c).

I recommend that upon approval of the above proposed drain that the Board also approve the attached non-enforcement request. The request will be for the reduction of the regulated drain easement to those easement widths as shown on the secondary plat for Copper Run as recorded in the office of the Hamilton County Recorder.

I recommend the Board set a hearing for this proposed drain for November 26, 2018.



Kenton C. Ward, CFM  
Hamilton County Surveyor

KCW/pll

STATE OF INDIANA )  
 )  
COUNTY OF HAMILTON )

**FILED**

**JUL 30 2018**

OFFICE OF HAMILTON COUNTY SURVEYOR

TO: HAMILTON COUNTY DRAINAGE BOARD  
% Hamilton County Surveyor  
One Hamilton County Square, Suite 188  
Noblesville, IN. 46060-2230

In the matter of \_\_\_\_\_ Copperleaf \_\_\_\_\_ Subdivision, Section \_\_\_\_\_  
\_\_\_\_\_ Drain Petition.

Petitioner is the owner of all lots in the land affected by the proposed new regulated drain. The drainage will affect various lots in \_\_\_\_\_ Copperleaf \_\_\_\_\_, a subdivision in Hamilton County, Indiana. The general route of such drainage shall be in existing easements and along public roads as shown in the plans on file in the Surveyor's Office.

Petitioner believes that the cost, damages and expenses of the proposed improvement will be less than the benefits which will result to the owners of the land likely to be benefited thereby. Petitioner believes the proposed improvements will:

- (a) improve public health
- (b) benefit a public street
- (c) be of public utility

Petitioner agrees to pay the cost of construction of the drainage system and requests periodic maintenance assessments by the Board thereafter.

The Petitioner also agrees to the following:

1. To provide the Drainage Board a Performance Bond or Non-Revocable Letter of Credit for the portion of the drainage system which will be made a regulated drain. The bond will be in the amount of 120% of the Engineer's estimate. The bond will be in effect until construction of 100% of the system is completed and so certified by the Engineer.
2. The Petitioner shall retain an Engineer throughout the construction phase. At completion of the project the Petitioner's Engineer shall certify that the drainage system which is to be maintained as a regulated drain has been constructed as per construction plans.
3. The Petitioner agrees to request in writing to the County Surveyor any changes from the approved plan and must receive written authorization from the County Surveyor prior to implementation of the change. All changes shall be documented and given to the Surveyor to be placed in the Drain file.
4. The Petitioner shall instruct his Engineer to provide a reproducible print on a 24" x 36" Mylar of the final design of the Drainage System. This shall be submitted to the County Surveyor prior to the release of the Performance Bond.
5. The Petitioner shall comply with the Erosion Control Plan as specified on the construction plans. Failure to comply with the Erosion Control Plan shall be determined by the Board as being an obstruction to the drainage system. The County Surveyor shall immediately install or repair the needed measures at Petitioners cost as per IC 36-9-27-46.

The Petitioner further requests that the Drain be classified as an Urban Drain as per IC 36-9-27-69(d).

**RECORDED OWNER(S) OF LAND INVOLVED**

  
Signed

Jeremy Lollar, Pulte Homes  
Printed Name

7/19/18  
Date

Signed

Printed Name

Date

Signed

Printed Name

Date

Signed

Printed Name

Date

FINDINGS AND ORDER

CONCERNING THE MAINTENANCE OF THE

Boone Creek Drain, Copper Run Arm

On this 26<sup>th</sup> day of November, 2018, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the *Boone Creek Drain, Copper Run Arm*.

Evidence has been heard. Objections were presented and considered. The Board then adopted the original/amended Schedule of Assessments. The Board now finds that the annual maintenance assessment will be less than the benefits to the landowners and issues this order declaring that this Maintenance Fund be established.

HAMILTON COUNTY DRAINAGE BOARD

  
\_\_\_\_\_  
President

  
\_\_\_\_\_  
Member

  
\_\_\_\_\_  
Member

Attest:   
Executive Secretary



Pulte Homes  
 Project: Copperlead  
 HWC Project No. 2017-232  
 Date: 07/27/18

**FILED**

**JUL 30 2018**

OFFICE OF HAMILTON COUNTY SURVEYOR



**HWC**  
 ENGINEERING

PERFORMANCE BOND - ENGINEERS ESTIMATE						
	ITEM NAME:	UNIT	QUANTITY	UNIT COST	AMOUNT	
STORM SEWER	12" RCP	LF	655	\$ 30.00	\$ 19,650.00	
	15" RCP	LF	715	\$ 35.00	\$ 25,025.00	
	18" RCP	LF	151	\$ 40.00	\$ 6,040.00	
	21" RCP	LF	576	\$ 45.00	\$ 25,920.00	
	24" RCP	LF	569	\$ 50.00	\$ 28,450.00	
	30" RCP	LF	222	\$ 60.00	\$ 13,320.00	
	36" RCP	LF	483	\$ 65.00	\$ 31,395.00	
	42" RCP	LF	165	\$ 75.00	\$ 12,375.00	
	12" END SECTION	EA	1	\$ 950.00	\$ 950.00	
	18" END SECTION	EA	1	\$ 1,150.00	\$ 1,150.00	
	21" END SECTION	EA	2	\$ 1,250.00	\$ 2,500.00	
	24" END SECTION	EA	1	\$ 1,350.00	\$ 1,350.00	
	30" END SECTION	EA	2	\$ 1,750.00	\$ 3,500.00	
	36" END SECTION	EA	1	\$ 2,050.00	\$ 2,050.00	
	42" END SECTION	EA	1	\$ 2,350.00	\$ 2,350.00	
	12" TRASH GUARD	EA	1	\$ 600.00	\$ 600.00	
	18" TRASH GUARD	EA	1	\$ 650.00	\$ 650.00	
	21" TRASH GUARD	EA	2	\$ 700.00	\$ 1,400.00	
	24" TRASH GUARD	EA	1	\$ 750.00	\$ 750.00	
	30" TRASH GUARD	EA	2	\$ 800.00	\$ 1,600.00	
	36" TRASH GUARD	EA	1	\$ 850.00	\$ 850.00	
	42" TRASH GUARD	EA	1	\$ 1,000.00	\$ 1,000.00	
	MANHOLE, STANDARD	EA	7	\$ 3,000.00	\$ 21,000.00	
	MANHOLE, LARGE	EA	11	\$ 4,000.00	\$ 44,000.00	
	STANDARD INLET	EA	9	\$ 2,000.00	\$ 18,000.00	
	DOUBLE INLET	EA	8	\$ 4,000.00	\$ 32,000.00	
	CURB SSD	LF	4379	\$ 10.00	\$ 43,790.00	
	SWALE SSD	LF	3009	\$ 10.00	\$ 30,090.00	
	SSD LATERALS	EA	28	\$ 100.00	\$ 2,800.00	
	GRANULAR BACKFILL	TON	470	\$ 20.00	\$ 9,400.00	
	<b>STORM SEWER SUBTOTAL:</b>					<b>\$ 383,955.00</b>
	<b>STORM SEWER PERFORMANCE BOND (120%):</b>					<b>\$ 460,746.00</b>
	MONUMENTATION	LOT CORNERS	EA	110	\$ 35.00	\$ 3,850.00
CENTERLINE		EA	12	\$ 200.00	\$ 2,400.00	
CONCRETE 4X4 PROPERTY CORNERS		EA	4	\$ 500.00	\$ 2,000.00	
<b>MONUMENTATION SUBTOTAL:</b>					<b>\$ 8,250.00</b>	
<b>MONUMENTATION PERFORMANCE BOND (120%):</b>					<b>\$ 9,900.00</b>	

This Engineer's Estimate is an opinion of probable construction cost made on the basis of Engineer's experience and represent Engineer's judgement as a qualified professional generally familiar with the industry. However, since Engineer has no control over the cost of materials, equipment, labor or market conditions, Engineer cannot guarantee that actual construction cost will not vary from this Engineer's Estimate.

*Brandon T. Burke*

Brandon T. Burke, P.E.  
 HWC Engineering



BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF

*Boone Creek Drain, Copper Run Arm*

NOTICE

To Whom It May Concern and: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Notice is hereby given of the hearing of the Hamilton County Drainage Board on the **Boone Creek Drain, Copper Run Arm** on **November 26, 2018** at **9:00 A.M.** in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana, and which construction and maintenance reports of the Surveyor and the Schedule of Assessments made by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY



BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF THE

**Boone Creek Drain, Copper Run Arm**

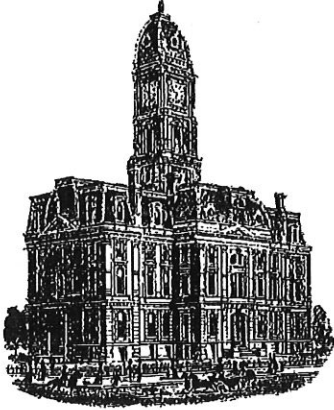
NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment on **November 26, 2018** has issued an order adopting the Schedule of Assessments, filed the same and made public announcement thereof at the hearing and ordered publication. If judicial review of the findings and order of the Board is not requested pursuant to Article Eight of this code within twenty (20) days from the date of this publication, the order shall be conclusive.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY



*Kenton C. Ward, CFM*  
*Surveyor of Hamilton County*  
*Phone (317) 776-8495*  
*Fax (317) 776-9628*

*Suite 188*  
*One Hamilton County Square*  
*Noblesville, Indiana 46060-2230*

**To: Hamilton County Drainage Board**

**September 30, 2020**

**Re: Boone Creek Drain: Copper Run Arm**

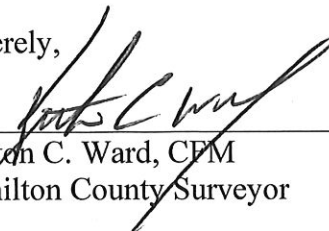
Attached are as-built, certificate of completion & compliance, and other information for Copper Run. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain, which will alter the plans submitted with my report for this drain-dated October 5, 2018. The report was approved by the Board at the hearing held November 26, 2018. (See Drainage Board Minutes Book 18, Pages 310-311) The changes are as follows: the 12" RCP was shortened from 652 feet to 655 feet. The 15" RCP was shortened was shortened from 715 to 713 feet. The 15" HDPE was changed to 8 feet of 12" SSD. The 18" RCP was lengthened from 151 feet to 153 feet. The 21" RCP was lengthened from 576 feet to 591 feet. The 24" RCP was shortened from 569 feet to 565 feet. The 30" RCP was shortened from 222 feet to 217 feet. The 36" RCP was lengthened from 483 feet to 487 feet. The 42" RCP was lengthened from 165 feet to 166 feet. The 6" SSD was shortened from 165 feet to 166 feet. The length of the drain due to the changes described above is now **6,549 feet**.

The non-enforcement was approved by the Board at its meeting on November 26, 2018 and recorded under instrument #2019004669. Sureties not posted by the developer for this project in accordance with IC 36-7-4-709.

I recommend the Board approve the drain's construction as complete and acceptable.

Sincerely,



---

Kenton C. Ward, CFM  
Hamilton County Surveyor

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: Copper Run (west of 131st & West Road, Carmel)

I hereby certify that:

1. I am a Registered Land Surveyor or Engineer in the State of Indiana.
2. I am familiar with the plans and specifications for the above referenced subdivision.
3. I have personally observed and supervised the completion of the drainage facilities for the above referenced subdivision.
4. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been installed and completed in conformity with all plans and specifications.
5. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been correctly represented on the Record Drawings, Digital Record Drawings and the Structure Data Spreadsheet.

Signature:  Date: 12/17/2020

Type or Print Name: Luke A. Jahn

Business Address: 135 N. Pennsylvania Street

Suite #2800

Telephone Number: 317-981-1269



INDIANA REGISTRATION NUMBER

PS #20900171







**CARMEL GENERAL NOTES:**

- UTILITY RELOCATIONS REQUIRED BY THE PROJECT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. UTILITY LINE RELOCATIONS REQUIRED FOR ROAD PROJECTS THAT RESULT IN A CONFLICT WITH PROPOSED DEVELOPMENT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO RESOLVE WITH THE UTILITY. EXISTING POLE LINES REQUIRED TO BE RELOCATED SHALL BE RELOCATED TO WITHIN ONE FOOT OF THE PROPOSED RIGHT-OF-WAY LINE.
- NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
- DAMAGE TO THE EXISTING RIGHT-OF-WAY SHALL BE RESTORED/REPAIRED TO THE SATISFACTION OF THE CITY AT THE COMPLETION OF THE PROJECT. THE CONTRACTOR IS ENCOURAGED TO INSPECT THE RIGHT-OF-WAY WITH THE CITY PRIOR TO THE START OF CONSTRUCTION TO DOCUMENT THE EXISTING CONDITION OF THE RIGHT-OF-WAY.

**SANITARY SEWER SERVICE**  
 6-INCH GRINDER PUMP & LOW PRESSURE COMMON FORCEMAIN SERVICE;  
 LOTS 1-28

**LEGEND:**

- |          |                             |
|----------|-----------------------------|
| 25       | LOT NUMBER                  |
| D.E.     | DRAINAGE EASEMENT           |
| D.U.L.E. | DRAINAGE & UTILITY EASEMENT |
| B.S.L.   | BUILDING SETBACK LINE       |
| R.S.L.   | REAR SETBACK LINE           |
| B.Y.E.   | BUFFERYARD EASEMENT         |
| C.A.     | COMMON AREA                 |
| S.F.     | SQUARE FOOT                 |
| Ac.      | ACRE                        |

**STORM SEWER FOR THIS PROJECT WILL BE PUBLIC**

MARK G. HALVORSEN &  
MARGARET D. HALVORSEN

JOSEPH M. SZWED &  
AMY L. SZWED

SARA WAXBERG

JERRY L. RUSHTON &  
ELIZABETH B. RUSHTON

LISA & BRUCE  
MILLER

DAVOD & ALISSA  
HERBON

JOSEPH & KRISTA  
SANTOS

MARK & ANNE  
CASAVANT

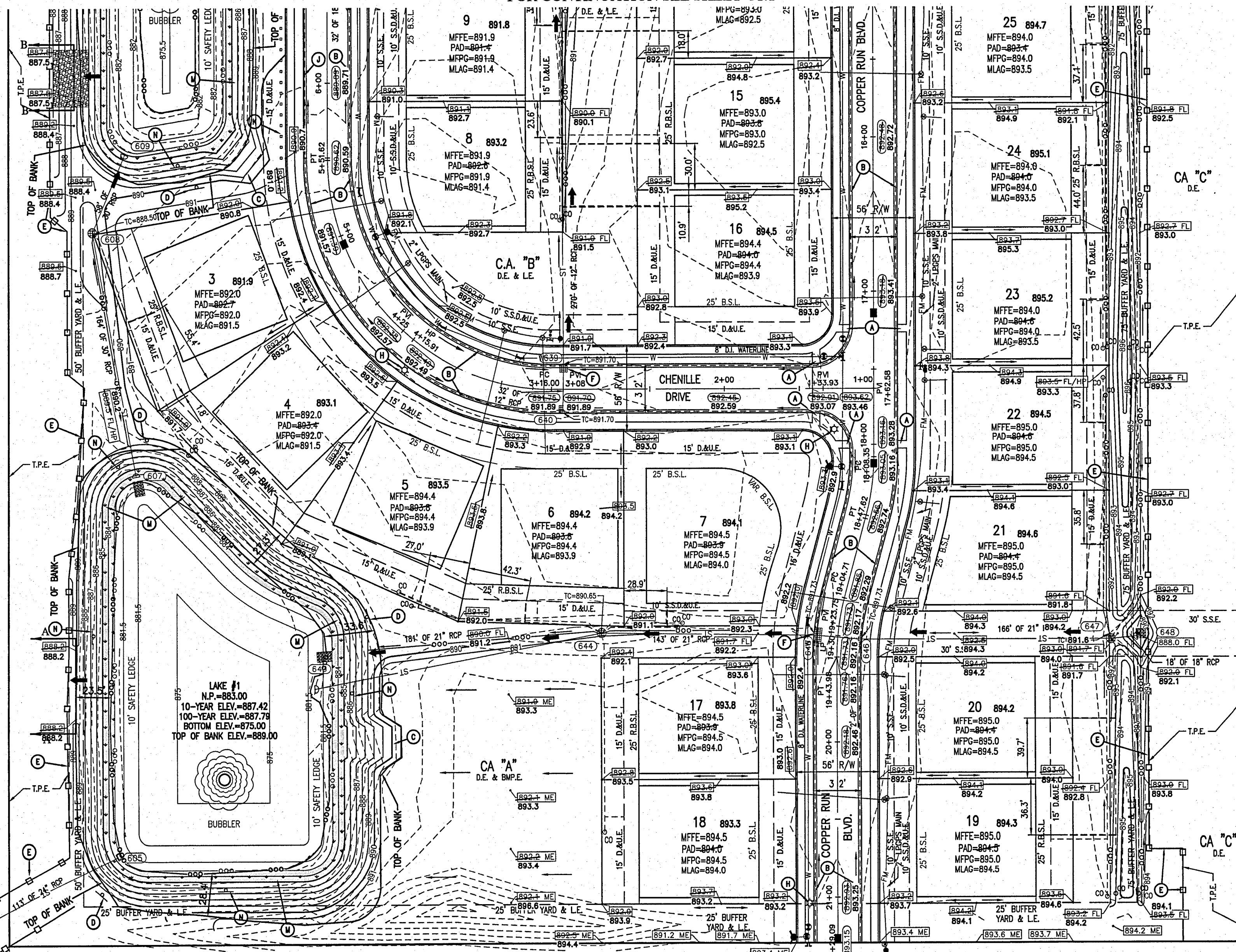
EXISTING DRY DETENTION  
AUSTIN OAKS SECTION 10  
MEADOWS BLOCK "B" - COMMONS  
EX D.U.&S.E.  
INSTR# 9609029

DONALD APPLAGATE

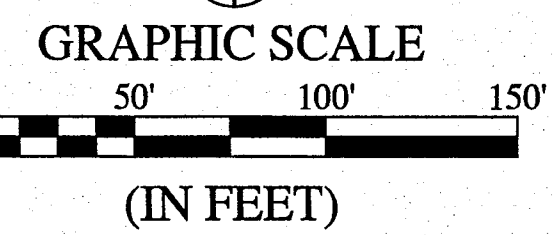
XISHUN ZHANG &  
JIAPING YUE

XISHUN ZHANG &  
JIAPING YUE

FOR CONTINUATION SEE SHEET C1.1



Call 811 or 800-382-5544 Before you Dig!



**LEGEND:**

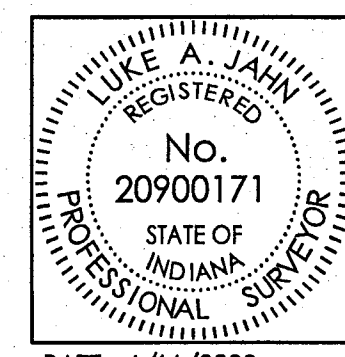
- | EXISTING |  | PROPOSED |  |
|----------|--|----------|--|
| ---      | RIGHT-OF-WAY LINE  | ---      | EASEMENT LINE  |
| ---      | SETBACK LINE   | ---      | SETBACK LINE   |
| ---      | CENTERLINE   | ---      | CENTERLINE   |
| ---      | SWALE / FLOWLINE   | ---      | SWALE / FLOWLINE   |
| ---      | SUBSURFACE DRAIN   | ---      | SUBSURFACE DRAIN   |
| S        | SANITARY SEWER   | S        | SANITARY SEWER   |
| ST       | STORM SEWER  | ST       | STORM SEWER  |
| ST       | STORM CULVERT  | ST       | STORM CULVERT  |
| W        | WATER MAIN   | W        | WATER MAIN   |
| FM       | FORCEMAIN  | FM       | FORCEMAIN  |
| ---      | (LPGS LOW PRESSURE GRINDER PUMP SYSTEM)  | ---      | (LPGS LOW PRESSURE GRINDER PUMP SYSTEM)  |
| ---      | CONTOUR, MAJOR   | ---      | CONTOUR, MAJOR   |
| ---      | CONTOUR, MINOR   | ---      | CONTOUR, MINOR   |
| ---      | FENCE  | ---      | FENCE  |
| ---      | TREE LINE  | ---      | TREE LINE  |
| ⊙        | SANITARY MANHOLE   | ⊙        | SANITARY MANHOLE   |
| ⊙        | STORM MANHOLE  | ⊙        | STORM MANHOLE  |
| ⊙        | STORM INLET  | ⊙        | STORM INLET  |
| ⊙        | STORM END SECTION  | ⊙        | STORM END SECTION  |
| ⊙        | FIRE HYDRANT   | ⊙        | FIRE HYDRANT   |
| ---      | N/A  | ---      | N/A  |
| ---      | PC - POINT OF CURVATURE  | ---      | PC - POINT OF CURVATURE  |
| ---      | PT - POINT OF TANGENCY   | ---      | PT - POINT OF TANGENCY   |
| ---      | PVC - POLYVINYL CHLORIDE PIPE  | ---      | PVC - POLYVINYL CHLORIDE PIPE  |
| ---      | RCP - REINFORCED CONCRETE PIPE   | ---      | RCP - REINFORCED CONCRETE PIPE   |
| ---      | R/W - RIGHT-OF-WAY   | ---      | R/W - RIGHT-OF-WAY   |
| ---      | TP - TOP OF BANK GRADE   | ---      | TP - TOP OF BANK GRADE   |
| ---      | NP - NORMAL POOL (ELEVATION)   | ---      | NP - (LPGS) LOW PRESSURE GRINDER PUMP SYSTEM   |
| ---      | EMERGENCY FLOOD ROUTE  | ---      | EMERGENCY FLOOD ROUTE  |
| ---      | MFGP - MINIMUM FLOOD PROTECTION GRADE (SEE DEFINITION ON SHEET C1.1)                       | ---      | MFGP - MINIMUM FLOOD PROTECTION GRADE (SEE DEFINITION ON SHEET C1.1)                       |
| ---      | MLAG - MINIMUM LOWEST ADJACENT GRADE (SEE DEFINITION ON SHEET C1.1)                        | ---      | MLAG - MINIMUM LOWEST ADJACENT GRADE (SEE DEFINITION ON SHEET C1.1)                        |
| A        | A.D.A. HANDICAP RAMP   | A        | A.D.A. HANDICAP RAMP   |
| B        | 2' ROLL CURB   | B        | 2' ROLL CURB   |
| C        | 20' SAFETY RAMP @ 6:1 SLOPE  | C        | 20' SAFETY RAMP @ 6:1 SLOPE  |
| D        | INDOT APPROVED SNOWPLOWABLE RAISED PAVEMENT MARKERS  | D        | INDOT APPROVED SNOWPLOWABLE RAISED PAVEMENT MARKERS  |
| E        | POND WARNING SIGNS   | E        | POND WARNING SIGNS   |
| F        | TREE PROTECTION FENCING (ORANGE CONSTRUCTION FENCING)                                      | F        | TREE PROTECTION FENCING (ORANGE CONSTRUCTION FENCING)                                      |
| G        | CURB INLET SNOUT BMP   | G        | CURB INLET SNOUT BMP   |
| H        | MECHANICAL SEPARATOR BMP   | H        | MECHANICAL SEPARATOR BMP   |
| I        | STREET LIGHT   | I        | STREET LIGHT   |
| J        | CURB AND GUTTER TYPE II (CHENILLE DR STA 5+51.62 & 6+72)                                   | J        | CURB AND GUTTER TYPE II (CHENILLE DR STA 5+51.62 & 6+72)                                   |
| K        | 6"x6" WOOD BARRIER POST  | K        | 6"x6" WOOD BARRIER POST  |
| L        | ARBOR (TRELLIS) AND BENCH  | L        | ARBOR (TRELLIS) AND BENCH  |
| M        | NATIVE GRASS POND BANK (SEE DETAIL SHEET C1.2)   | M        | NATIVE GRASS POND BANK (SEE DETAIL SHEET C1.2)   |
| N        | STORM WATER BMP NATURAL PRESERVATION AREA DO NOT MOW OR SPRAY SIGN (SEE DETAIL SHEET C1.2) | N        | STORM WATER BMP NATURAL PRESERVATION AREA DO NOT MOW OR SPRAY SIGN (SEE DETAIL SHEET C1.2) |
| P        | 2' ROLL CURB (NO GUTTER)   | P        | 2' ROLL CURB (NO GUTTER)   |
| ---      | BUBBLER  | ---      | BUBBLER  |
| ---      | LAKE #1 BUBBLER = 2.96 AC-FT CIRCULATED OVER 24 HOURS                                      | ---      | LAKE #1 BUBBLER = 2.96 AC-FT CIRCULATED OVER 24 HOURS                                      |
| ---      | LAKE #2 BUBBLER = 1.57 AC-FT CIRCULATED OVER 24 HOURS                                      | ---      | LAKE #2 BUBBLER = 1.57 AC-FT CIRCULATED OVER 24 HOURS                                      |

JAMES T. VOLPERT & ANGELA L. GOODWIN-VOLPERT

DAVID RICH & MONA RICH

**CERTIFICATION FOR "RECORD DRAWING"**

CERTIFIED BY: LUKE A. JAHN  
 HWC ENGINEERING  
 135 N. PENNSYLVANIA STREET, SUITE 2800  
 INDIANAPOLIS, INDIANA 46204  
 (317) 347-3663 FAX (317) 347-3664  
 NOTE: Record drawing certification only for storm sewer, sanitary sewer, sub-surface drainage, and grading.  
 DATE: 4/14/2020



**BENCHMARK INFORMATION:**

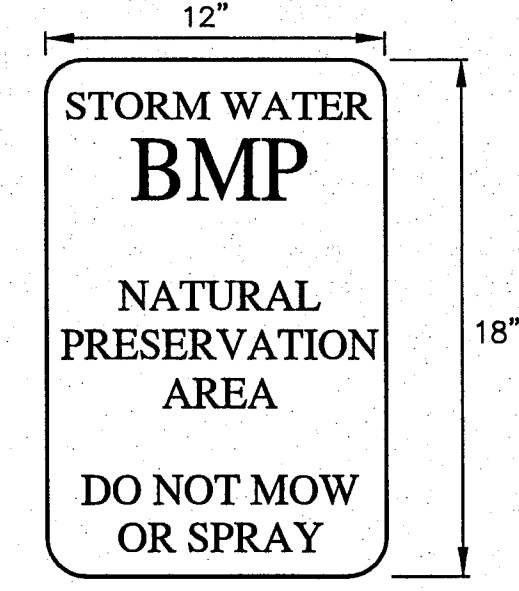
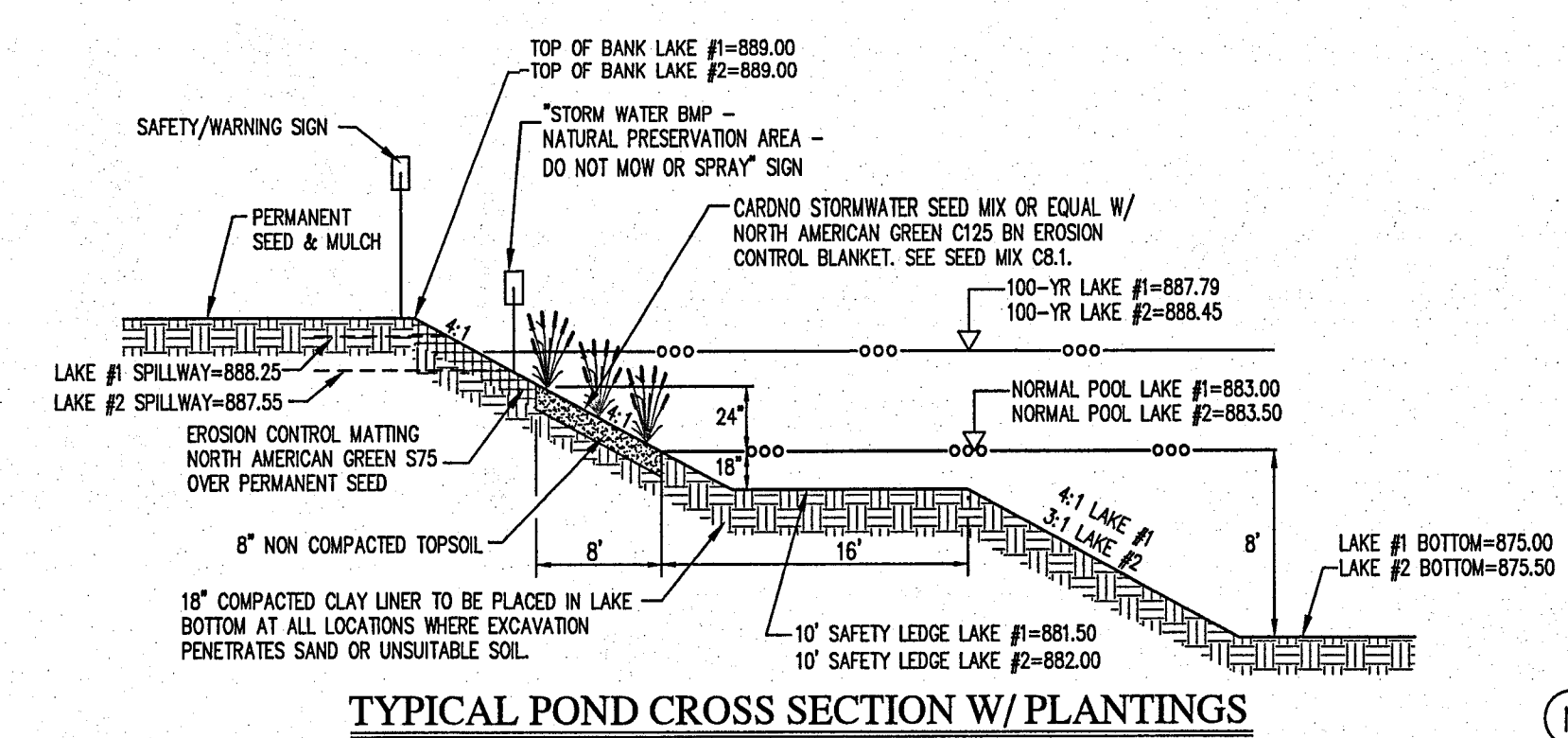
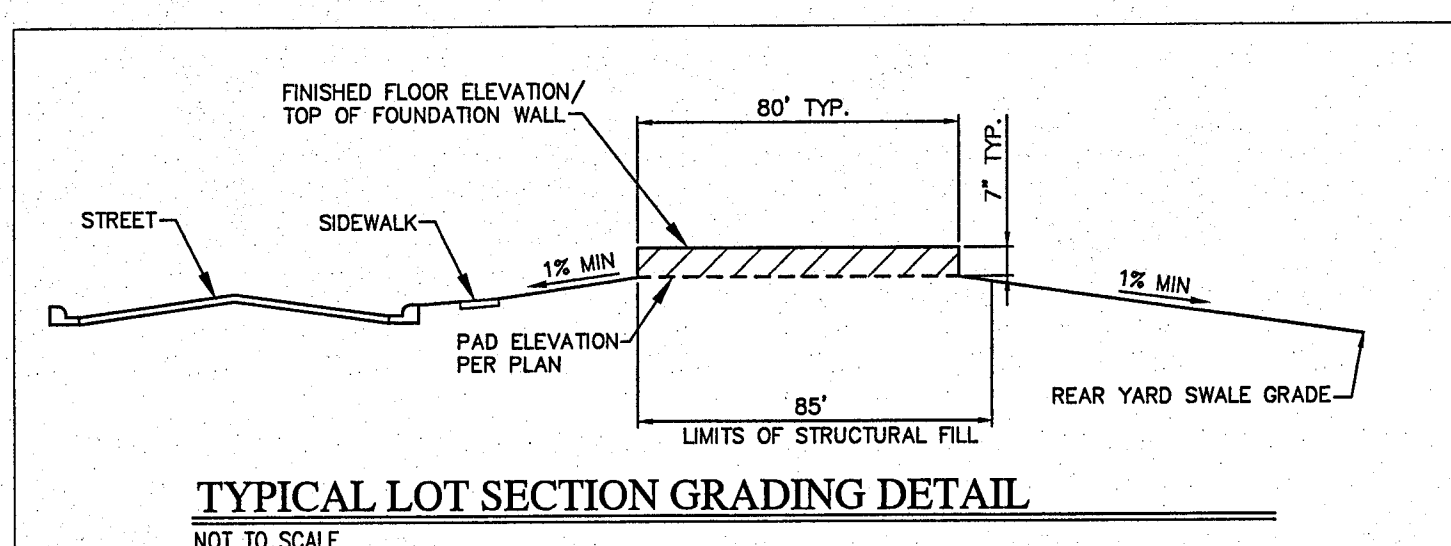
NOTE: ELEVATION INFORMATION SHOWN HEREON IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) BASED UPON GPS OBSERVATIONS PROCESSED BY THE NATIONAL GEODETIC SERVICE (NGS) UTILIZING AN ON-LINE POSITIONING USER SERVICE (OPUS) SOLUTION FROM OBSERVATIONS ON CONTROL POINT #100 (SEE BELOW).

**CONTROL POINT #100 (PRIMARY BENCHMARK)** - 5/8-INCH REBAR WITH RED PLASTIC CAP STAMPED "HWC RANDOM POINT" SET IN THE FIELD SOUTH OF THE MAIN HOUSE, APPROXIMATELY 75 FEET WEST OF THE WEST-MOST TREE LINE ALONG THE EAST SIDE OF THE SUBJECT TRACT, AND APPROXIMATELY 400 FEET SOUTH OF THE RAIL FENCE ALONG THE SOUTH LINE OF THE GRASS FIELDS. ELEVATION: 892.72 (NAVD 88)

**CONTROL POINT #101** - 5/8-INCH REBAR WITH RED PLASTIC CAP STAMPED "HWC RANDOM POINT" SET NORTH OF W. 131ST STREET AND 200 FEET WEST OF THE ASPHALT DRIVEWAY FOR THE SUBJECT TRACT, APPROXIMATELY 15 FEET NORTH OF THE NORTH EDGE OF PAVEMENT OF W. 131ST STREET AND 31.5 FEET SOUTH OF THE WEST-SOUTHWEST CORNER OF AN ASPHALT SIDEWALK. ELEVATION: 896.56 (NAVD 88)

**CONTROL POINT #102** - MAG NAIL WITH WASHER STAMPED "HWC RANDOM POINT" SET FLUSH WITH THE ROAD SURFACE AT THE SOUTH END OF THE MEDIAN AT THE INTERSECTION OF HANSEN LANE AND W. 131ST STREET, APPROXIMATELY 4 FEET SOUTHEAST FROM THE BACK OF CURB OF THE MEDIAN AND 37.3 FEET SOUTHEAST OF THE STOP SIGN AT THE INTERSECTION. ELEVATION: 895.17 (NAVD 88)

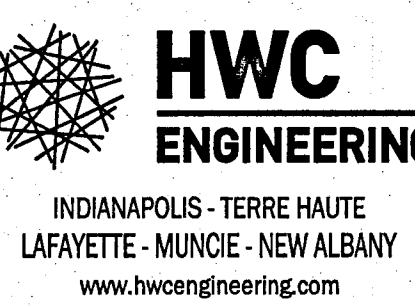
**HORIZONTAL INFORMATION:**  
 STATE PLANE COORDINATES-EAST ZONE, NAD83



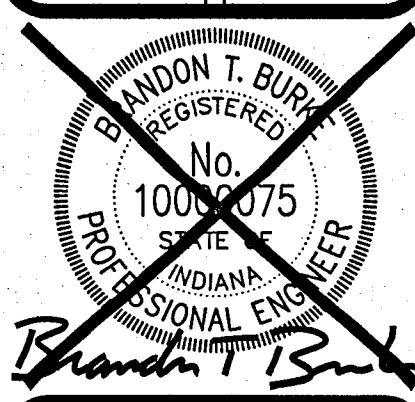
**STORM WATER BMP NATURAL PRESERVATION AREA SIGN**  
 NOT TO SCALE

**REVISIONS**

DATE	DESCRIPTION	BY
07/02/18	REVISED PER TAC COMMENTS	DC
08/02/18	REVISED PER TAC COMMENTS	DC
09/12/18	REVISED SUBDIVISION NAME & STREET NAME	DC
12/15/18	RECORD DRAWING	SD
01/28/19	REVISED ENTRY SIGN FOOTPRINT	KM
02/27/19	ADDED MOUNDS TO COMMON AREA "A"	KS



**COPPER RUN  
 CARMEL, INDIANA  
 DEVELOPMENT PLAN**



**DRAWN BY**  
 DC  
**CHECKED BY**  
 BB  
**DATE**  
 MAY 18, 2018  
**SCALE**  
 AS SHOWN  
**SHEET**

**C1.2  
 DEVELOPMENT  
 PLAN**

File Name: W:\Pulte Homes\2017-232-A Pulte-Copperleaf\Design\CAD\17232-A-Development-Plan-Asbuilt.dwg, Layout: C1.2  
 Plot Time: 12:30pm  
 Plot Date: Apr 14, 2020



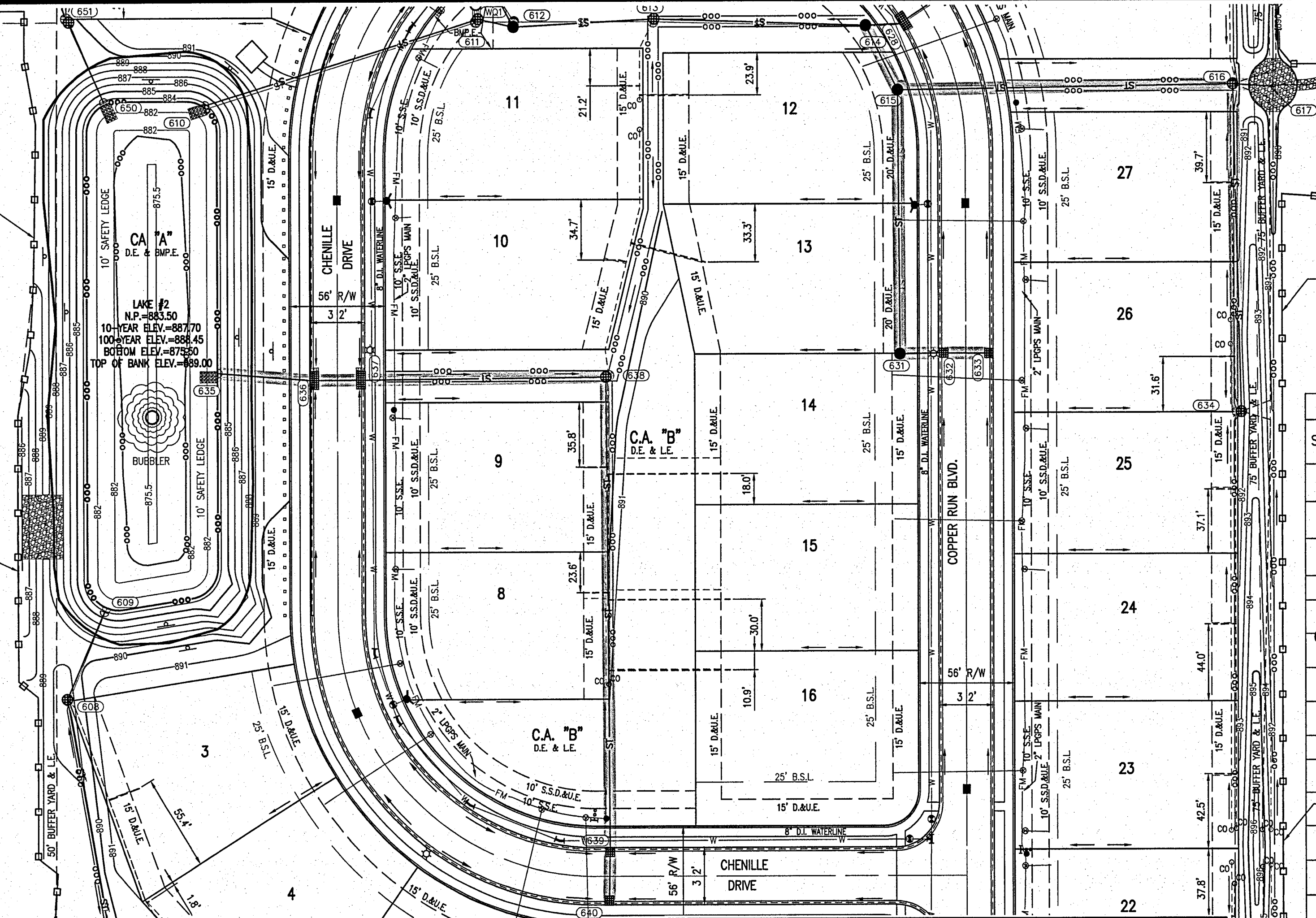




**LEGEND:**

EXISTING	PROPOSED
RIGHT-OF-WAY LINE	RIGHT-OF-WAY LINE
EASEMENT LINE	EASEMENT LINE
SETBACK LINE	SETBACK LINE
CENTERLINE	CENTERLINE
SWALE / FLOWLINE	SWALE / FLOWLINE
SUBSURFACE DRAIN	SUBSURFACE DRAIN
SANITARY SEWER	SANITARY SEWER
STORM SEWER	STORM SEWER
STORM CULVERT	STORM CULVERT
WATER MAIN	WATER MAIN
SANITARY MANHOLE	SANITARY MANHOLE
STORM MANHOLE	STORM MANHOLE
STORM INLET	STORM INLET
STORM END SECTION	STORM END SECTION
FIRE HYDRANT	FIRE HYDRANT
PROFILED PIPELINE	PROFILED PIPELINE
EX - EXISTING	IN - INVERT ELEVATION
MW - MANHOLE	WH - WATER MAIN
RCP - REINFORCED CONCRETE PIPE	TC - TOP OF CASTING GRADE
LP - LOW PRESSURE GRINDER PUMP SYSTEM	

- GENERAL NOTES:**
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
  - ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
  - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
  - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL EXISTING ELEVATIONS BEFORE CONSTRUCTION BEGINS.
  - THE STORM SEWER SYSTEM SHALL BE CONSTRUCTED PER DESIGN SPECIFIED AND AS APPROVED BY THE CITY OF CARMEL ON THE FINAL APPROVED CONSTRUCTION PLANS. DEVIATIONS FROM THE APPROVED DESIGN SHALL ONLY BE PERMITTED DUE TO SPECIAL CIRCUMSTANCES OR DETOURING DURING CONSTRUCTION AND WILL REQUIRE PRIOR FIELD APPROVAL FROM A DESIGNATED REPRESENTATIVE OF THE CITY OF CARMEL. IN ADDITION TO SUPPLEMENTAL APPROVAL BY THE DESIGN ENGINEER, AN EXPLANATION OF ANY SUCH DEVIATION SHALL BE INCLUDED AS A REQUIREMENT ON AS-BUILT/RECORD DRAWINGS SUBMITTED FOR RELEASE OF PERFORMANCE GUARANTEES. APPROVED DESIGN SLOPES IDENTIFIED AS GENERATING VELOCITIES OF 2.5 FPS OR LESS OR 10 FPS OR GREATER (AT FULL FLOW CAPACITY) SHALL REQUIRE AS-BUILT CERTIFICATION AT THE TIME OF CONSTRUCTION, PRIOR TO BACKFILLING THE PIPE. THE CONTRACTOR IS INSTRUCTED TO AS-BUILT EACH SECTION OF STORM PIPE AS IT IS BEING INSTALLED TO ENSURE COMPLIANCE WITH THE DESIGN PLANS AND AS APPROVED BY THE CITY OF CARMEL.
  - NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.
  - ALL STORMWATER DRAINAGE CASTINGS SHALL BE LABELED WITH ENVIRONMENTAL MESSAGING "DUMP NO WASTE".
  - ALL CONCRETE PIPE JOINTS SHALL BE CONTINUOUS O-RING RUBBER GASKET CONFORMING TO ASTM C 443.
  - 18" OF VERTICAL SEPARATION MUST BE MAINTAINED FOR ALL UTILITY CROSSINGS.
  - FOR STORM SEWER BACKFILL SPECIFICATIONS, REFER TO STORM SEWER TRENCH DETAIL STANDARD DRAWING 10-28 ON SHEET C8.4.



**Pipe Table**

UPSTREAM TO DOWNSTREAM	PIPE LENGTH (FT)	PIPE DIA. (IN)
615-614	39	36"
616-615	195	36"
617-616	21	36"
631-615	151	15"
632-631	21	15"
633-632	32	12"
634-616	185	12"
636-635	54	21"
637-636	32	18"
638-637	142	15"
639-638	270	12"
640-639	32	12"

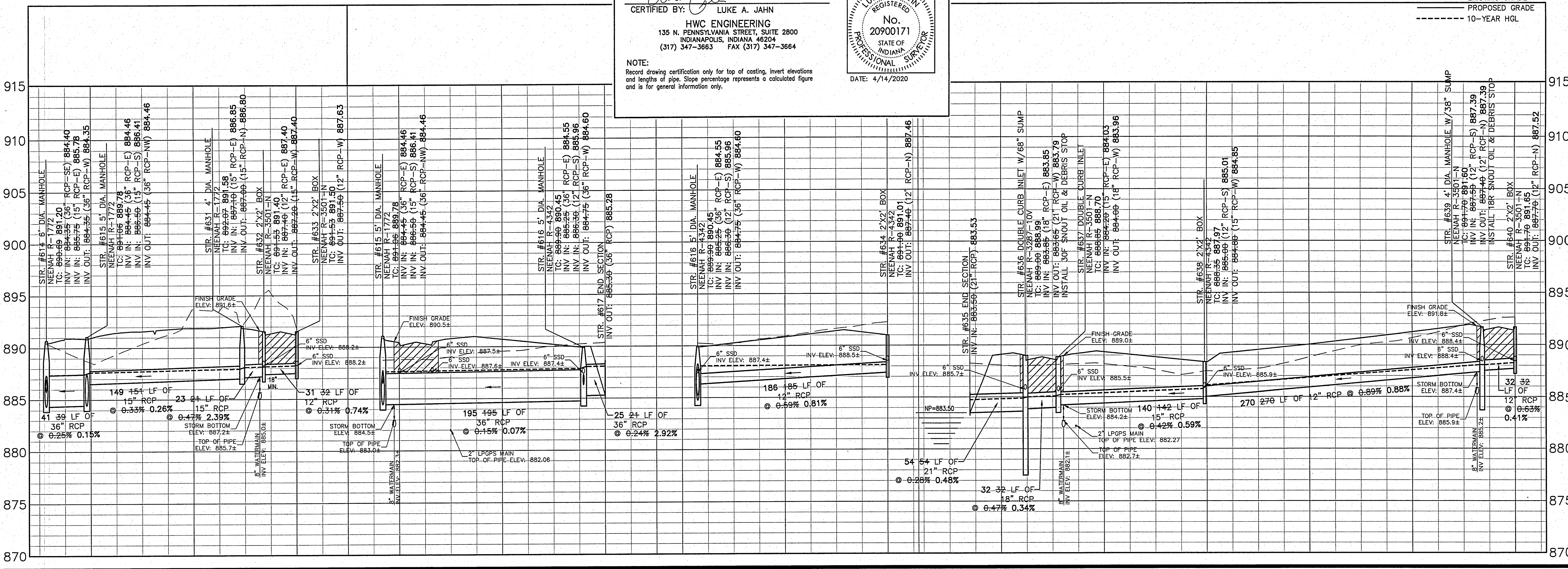
**Indiana 811**  
KNOW WHAT'S BELOW.  
CALL BEFORE YOU DIG.  
Call 811 or 800-382-5544 Before you Dig!

**GRAPHIC SCALE**  
0' 50' 100' 150'  
(IN FEET)

**STORM SEWER STRUCTURE DATA TABLE**

STR. #	TC	INV. IN (ELEV.)	INV. OUT (ELEV.)	PIPE IN DIA. (INCH)	PIPE OUT DIA. (INCH)	PIPE IN MATERIAL	PIPE OUT MATERIAL	STR. & CASTING TYPE	DETAIL REFERENCE	SPECIAL NOTES
614	890.69	884.35 (SE) 885.75 (E)	884.35 (W)	36" 15"	36"	RCP	RCP	6" DIA. MANHOLE NEENAH R-1772	SEE DETAIL SHEET C8.6	
615	891.06	884.45 (E) 886.50 (S)	884.45 (NW)	36" 15"	36"	RCP	RCP	5" DIA. MANHOLE NEENAH R-1772	SEE DETAIL SHEET C8.6	
616	889.90	885.25 (E) 886.30 (S)	884.75 (W)	36" 12"	36"	RCP	RCP	5" DIA. MANHOLE NEENAH R-4342	SEE DETAIL SHEET C8.6	
617	888.72		885.30 (W)		36"			END SECTION	SEE DETAIL SHEET C8.3	
631	892.07	887.10 (E)	887.00 (N)	15"	15"	RCP	RCP	4" DIA. MANHOLE NEENAH R-1772	SEE DETAIL SHEET C8.6	
632	891.53	887.40 (E)	887.20 (W)	12"	15"	RCP	RCP	2'X2' BOX NEENAH R-3501-N	SEE DETAIL SHEET C8.6	
633	891.53		887.50 (W)		12"			2'X2' BOX NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
634	891.00		887.40 (N)		12"			2'X2' BOX NEENAH R-4342	SEE DETAIL SHEET C8.3	
635	885.56	883.50 (E)		21"		RCP		END SECTION	SEE DETAIL SHEET C8.3	
636	889.00	883.85 (E)	883.65 (W)	18"	21"	RCP	RCP	DOUBLE CURB INLET W/68" SUMP NEENAH R-3287-10V	SEE DETAIL SHEET C8.3	INSTALL 30F SNOUT, SEE DETAIL SHEET C8.2
637	888.85	884.20 (E)	884.00 (W)	15"	18"	RCP	RCP	DOUBLE CURB INLET NEENAH R-3501-N	SEE DETAIL SHEET C8.3	
638	888.35	885.00 (S)	884.80 (W)	12"	15"	RCP	RCP	2'X2' BOX NEENAH R-4342	SEE DETAIL SHEET C8.3	
639	891.70	887.50 (S)	887.40 (N)	12"	12"	RCP	RCP	4" DIA. MANHOLE W/38" SUMP NEENAH R-3501-N	SEE DETAIL SHEET C8.6	INSTALL 18R SNOUT, SEE DETAIL SHEET C8.2
640	891.70		887.70 (N)		12"			2'X2' BOX NEENAH R-3501-N	SEE DETAIL SHEET C8.3	

**STORM PROFILE**  
VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 50'



**CERTIFICATION FOR "RECORD DRAWING"**

CERTIFIED BY: *LUKE A. JAHN*  
LUKE A. JAHN  
REGISTERED PROFESSIONAL ENGINEER  
No. 20900171  
STATE OF INDIANA  
DATE: 4/14/2020

HWC ENGINEERING  
135 N. PENNSYLVANIA STREET, SUITE 2800  
INDIANAPOLIS, INDIANA 46204  
(317) 347-3663 FAX (317) 347-3664

NOTE:  
Record drawing certification only for top of casting, invert elevations and lengths of pipe. Slope percentage represents a calculated figure and is for general information only.

GRANULAR BACKFILL PER CITY OF CARMEL TRENCH DETAIL ON SHEET C8.3  
EXISTING GRADE  
PROPOSED GRADE  
10-YEAR HGL

**REVISIONS**

DATE	DESCRIPTION	BY
07/02/18	REVISED PER TAC COMMENTS	DC
08/02/18	REVISED PER TAC COMMENTS	DC
08/12/18	REVISED SUBMITTAL NAME & STREET NAME	DC
01/25/19	RECORD DRAWING	SD
01/28/19	REVISED ENTRY SIGN FOOTPRINT	KM
02/27/19	ADDED MOUNDS TO COMMON AREA "A"	KS

**HWC ENGINEERING**  
INDIANAPOLIS - TERRE HAUTE  
LAFAYETTE - MUNICE - NEW ALBANY  
www.hwceengineering.com

**COPPER RUN CARMEL, INDIANA**  
**STORM SEWER PLAN AND PROFILE**

INDIAN T. BURNETT REGISTERED PROFESSIONAL ENGINEER No. 1009075 STATE OF INDIANA  
Branch

DRAWN BY DC  
CHECKED BY BB  
DATE MAY 18, 2018  
SCALE AS SHOWN  
SHEET C6.1  
JOB NUMBER 2017-232-A  
STORM SEWER PLAN AND PROFILE

© 2018

File Name: W:\Pulte Homes\2017-232-A Pulte- Copperleaf\Design\CAD\17232-A Storm Plan - Asbuilt.dwg, Layout: C6.1  
Plot Date: Apr 14, 2020 Plot Time: 10:33am







